



Docket No.: 0630-1524P
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Sung-Il PARK et al.

Application No.: 09/550,282

Confirmation No.: 9574

Filed: April 14, 2000

Art Unit: 2871

For: LIQUID CRYSTAL DISPLAY AND METHOD
OF MANUFACTURE

Examiner: Z. QI

REQUEST FOR A PRE-APPEAL BRIEF CONFERENCE

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Applicants hereby request a pre-appeal conference with respect to the Office Action dated May 1, 2006, in which pending claims 1, 3-6, 11-15, 17 and 19-26 continue to be more than twice rejected. A Notice of Appeal is being filed herewith. No fee is due with the Notice of Appeal because a fee was paid with respect to the Notice of Appeal that was previously filed on January 3, 2006.

BACKGROUND

A final Office Action dated September 22, 2005 rejected claims 1, 3-6, 11-15, 17 and 19-26. Applicants timely filed a notice of Appeal, and filed an Appeal Brief, under § 41.37(a), in this case on January 3, 2006, in furtherance of the Notice of Appeal.

An Office Action, dated May 1, 2006, vacated the final Office Action of September 22, 2005 and reopened prosecution of claims 1, 3-6, 11-15, 17 and 19-26.

Because the claims under rejection have been at least twice rejected, it is proper to Appeal the rejection of claims 1, 3-6, 11-15, 17 and 19-26, pursuant to 35 USC §134(a).

I. GROUNDS OF OBJECTION AND REJECTION TO BE REVIEWED IN THE PRE-APPEAL BRIEF CONFERENCE

A. Claims 1, 5, 6, 11-15 and 20-25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 6,259,200 to Morita et al. (hereinafter, "Morita") in view of U.S. Patent 5,870,157 to Shimada et al. ("Shimada") and further in view of U.S. Patent 6,172,728 to Hiraishi.

B. Claims 3, 4, 17, 19 and 26 stand rejected under 35 U.S.C. §103(a) as unpatentable over Morita, Shimada and Hiraishi, as applied in the rejection of claims 1, 5, 6, 11-15 and 20-25, and further in view of U.S. Patent 6,172,723 to Inoue et al. ("Inoue").

II. ARGUMENT

A. The outstanding Office Action is based on an erroneous premise. On page 4, the outstanding Office Action incorrectly alleges that Morita does not disclose a black layer or light-shielding layer between its pixel electrode and the upper substrate and above the low reflection layer. Applicants respectfully submit that Morita's upper substrate above the pixel electrode does disclose a black mask 62 that is a black layer and/or a light shielding layer, which is the opposite of what is recited in all of the claims. In this regard, Morita's Figs. 4-6 disclose that the black mask 62 is directly above part of pixel electrode 14, and note that Morita is directed to "improve

the aperture ratio of pixel" (col. 2, lines 6-7) and does this, in part, by providing an improved "black mask 62 [is] patterned in stripes on the opposing substrate. The black mask shields the gate lines 43, auxiliary lines 44 and this film transistors 3." Thus, a black mask that is located between the substrate and the pixel electrode is an essential part of Morita's invention, contrary to the quoted statement in the final Office Action. Moreover, although this argument was presented during the previous prosecution, including in the Appeal Brief, the outstanding Office Action does not address it.

Thus, the rejection is fatally flawed at least because it is based on an invalid premise directed to an issue that is not addressed by the Examiner in any Office Action despite the fact that it was raised in a number of Applicants' papers throughout this prosecution.

B. Appellants substantive arguments that traverse this rejection are found in the Appeal Brief and are summarized, as follows:

1. It would not be obvious to modify Morita as suggested is because Morita teaches that the invention is "preferably provided with at least a shading black mask aligned with the gate line" and that the Morita device "needs to shade the row gate lines" (col. 2, 34-44), i.e., because a black mask is very much an essential part of Morita's invention and that such positive teachings teach away from removing the black shade layer for the gate lines, even though Morita also discloses a low reflectance layer on signal lines 10 to preclude unwanted light reflection.

The Office's position does not address the previous argument, but reiterates its arguments regarding Hiraishi, one of the secondary references used in the rejection.

2. Very importantly, the outstanding rejection is based on a mischaracterization of the Hiraishi reference, by stating that Hiraishi, in col. 6, lines 34-37 discloses enhancing display quality by using a low reflectance layer of, for example, Chromium oxide, “covering the gate line or the source area or the drain area or the channel region” to reduce the reflectance of the surfaces.” Actually, in col. 6, lines 34-38, Hiraishi only discloses “ . . . providing a low-reflective film preferably made of chromium oxide, tantalum nitride or the like on the gate lines and the source lines (emphasis added). There is no disclosure by Hiraishi of covering the source area or the drain area or the channel region” to reduce the reflectance of the surfaces.

Applicants respectfully submit that this rejection is fundamentally flawed based on its mischaracterization of Hiraishi, and refusal to address these admitted shortcomings of Hiraishi.

3. The outstanding Office Action is now also relying on Shimada, as another secondary reference, to reject claims 1, 5, 6, 11-15 and 20-25. This reference really does not improve the rejection, however. Shimada is directed to making the linewidth of the black matrix smaller than a conventional black matrix to improve the aperture ratio of the liquid crystal display device (col. 3, lines 13-17). In the first disclosed example, Shimada removes the black matrix from the counter electrode substrate and aligns the edges of its color filters with the middle of the gate and source lines 10 (col. 5, lines 23-35). In the second exemplary embodiment, Shimada provides a black matrix on the counter electrode substrate to block light incident on portions between two adjacent color filters (col. 6, lines 26-40). Applicants respectfully submit that it would not be obvious to modify Morita to do away with its black matrix because of Morita’s disclosure of the black matrix as an essential element of its device and because it would require complete redesign of the entire active matrix substrate.

4. Moreover, Shimada, like Morita and like Hiraishi, fails to disclose use of a low reflective layer on its source electrode, its drain electrode, and its channel region, which is a positively recited feature of Applicants' invention. So, no matter what combination of these references is made, whether one of ordinary skill in the art were properly motivated to do so, or not, the resulting modification of Morita would neither disclose, nor suggest, nor render obvious the claimed invention.

Thus, the final Office Action fails to make out a *prima facie* case of obviousness of the invention recited in claims 1, 5, 6, 11-15, and 20-25 and should be reversed.

C. With respect to the rejection of claims 3, 4, 17, 19 and 26 under 35 U.S.C. §103(a) as unpatentable over Morita, Shimada and Hiraishi and further in view of Inoue, the Morita-Shimada-Hiraishi reference combination does not make out a *prima facie* case of unpatentability of the claimed invention recited in the claims from which claims 3, 4, 17, 19 and 26 depend, i.e., claim 11 or claim 22, and Inoue is not applied to remedy the aforementioned deficiencies of Morita. Accordingly, this rejection is improper and should be reversed.

Dated: August 1, 2006

Respectfully submitted,

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